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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,173

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Federico Pavan

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EXAMINER

SULLIVAN, DEBRA M

ART UNIT

PAPER NUMBER

3725

MAIL DATE

DELIVERY MODE

02/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,173	Applicant(s) PAVAN ET AL.	
	Examiner Debra M. Sullivan	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-46, 48, 50-59 and 61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-46, 48, 50-59 and 61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/1/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 1, 2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-46, 48, 50-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerspacher (US Patent # 4,143,209) in view of De Filippo et al (US Patent # 4,725,340) and Sawada (US Patent # 4,859,811). Gerspacher discloses at column 2, lines 15-39) the basic claimed method of forming a coated metal wire by thermally treating the metal core, submitting the core to a surface treatment (cleaning/pickling/water rinsing) to prepare the core for coating, coating the metal core with a metal coating and drawing the metal-coated metal core to reduce the diameter of the coated core to a finely coated wire. The metal core initially has a diameter of 0.9 to 1.4 millimeters and the final diameter of the coated wire is in the range of 0.08 to 0.40 millimeters. In light of this large reduction in diameter of the wire from its initial size to

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it final size, it is evident that the final wire will have a smaller coating thickness than originally provided and a smaller core diameter than originally provided. Gerspacher discloses the coating is formed of brass but fails to disclose the brass having a crystalline structure consisting of alpha face-centered-cubic brass. However, De Filippo et al teaches of coating a steel wire with alpha face-centered-cubic brass in order to obtain a satisfying behavior to drawing as well as a satisfying adhesion to the steel surface [See col. 1 lines 22-27]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the brass coating of Gerspacher with the alpha face-centered-cubic brass as taught by De Filippo et al in order to obtain a satisfying behavior to drawing and adhesion to the steel surface. Furthermore, Gerspacher uses an electroplating process for obtaining the adhesion of the coating to the core, it is common in this art to use other coating provisions that facilitate greater adhesion advantages resulting in high purity and high quality. Thus, impurities are reduced by using a vapor phase coating process along with an improvement in the draw down of the wire. Sawada shows a plasma deposition to be commonly used for this purpose and advantage (see Sawada at column 2, lines 48-68). Accordingly, it would have been obvious to the skilled artisan at the time of the invention to have modified Gerspacher's coating process by using a plasma or sputtering deposition process for the above noted motivation. The speed would have been selected based upon available hardware and desired finishing outcomes. This has not been disclosed as a critical provision. The manner of drying, i.e., by a blower, would have been within the purview of the skilled artisan. Claim 40 is considered inherently performed by Sawada's plasma CVD or chemical vapor deposition or sputtering vapor phase method (see Sawada at column 3,

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lines 26-33). Similarly, the pressures would have been obvious ranges barring any critical features. Sawada shows two coating chambers at 14. Descaling is commonly performed in the coating art to provide a clean surface for the coating. As to the different dimensions, i.e., thickness, diameters, it is the examiner's position that Gerspacher teaches the basic dimensional variations in the initial and final shaping operations by virtue of the fact that the core is coated with a predetermined thickness that results in a finely coated wire having a final diameter of 0.25 mm (see column 4, lines 21-23) with a coating thickness of around 10 Angstroms.

Response to Arguments

Applicant's arguments filed December 1, 2009 have been fully considered but they are not persuasive. Applicant argues that (1) Gerspacher discloses that "the present invention is directed specifically toward control of surface oxide layer during the plating and drawing process" and therefore relates to reducing the creation of an oxide layer during an electroplating process. Applicant further argues that modifying the teachings of Gerspacher which are related to improving a process for electroplating brass onto steel wire by replacing the electroplating process with Sawada's deposition coating technique would result in changing the principle disclosed in Gerspacher; and (2) an ordinary artisan in Gerspacher's art relating to wire reinforcement of tires would not look to Sawada's art relating to high quality electrical conductors for use in magnetic coils, acoustic- and image-forming appliances, and for connecting semiconductor elements in an integrated circuit.

The Examiner respectfully disagrees with Applicant's arguments. With respect to Applicant's first argument that Gerspacher teaches away from substituting a plasma or

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sputtering deposition process for the electroplating process, it is known within the wire coating art that plasma vapor deposition processes are widely used to make thin films (coatings) serving as oxidation barriers as evident by the disclosure of Wang (US 2003/0180445) [See paragraph 0015] Furthermore, plasma vapor deposition techniques are performed in a vacuum environment therefore there is no possible formation of an oxide layer (i.e. plasma vapor deposition controls surface oxide layer by eliminating the possible formation since the process is performed in a vacuum atmosphere). Therefore, the combination of modifying the teachings of Gerspacher by replacing the electroplating process with Sawada's deposition coating technique does not result in a change of the principle disclosed in Gerspacher since deposition coating technique does control a surface oxide layer.

In response to applicant's argument that one would not look to Sawada's vapor deposition of a coating to a core of similar metal to the core in an electrical product to the electroplating of brass to steel core for rubber products, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have *suggested* to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this regard, the objectives of Sawada's teachings clearly make evident to the skilled artisan the advantage and objective to coating using vapor deposition (sputtering) or chemical vapor deposition (plasma CVD). Sawada makes this clear at column 3, lines 29-33, where

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“(i)f the coating is done by sputtering, a wide variety of material can be deposited on the core wire with high adhesive strength. Coating by chemical vapor deposition uses a gas which can be easily refined, so that deposition with a high purity and high quality is possible”.

Furthermore, Sawada makes it evident at column 2, lines 48-50, that

“coating by vapor phases method, as compared with that obtained by other coating methods, makes it easy to attain a high quality and cleanliness”.

Accordingly, it is not the intent that the teachings of the Sawada teaching be bodily incorporated into the Gerspacher teaching but rather the features suggested by Sawada. Therefore, the skilled artisan having the benefit of the vapor deposition objectives taught by Sawada would have been disposed to coat Gerspacher's brass to the steel core using these objectives and, thus, obtaining the advantages to such an improved coating.

In addition, Sawada and Gerspacher are both directed to manufacturing problems of coating wire where the material is processed subsequent to the coating by drawing. The fact that Gerspacher deals with making wire for the tire industry does not preclude the applicability of Sawada's teaching where Sawada is used in the electrical field because of the common manufacturing features. Furthermore, and contrary to applicants' argument, it is the examiner's position that the fields of endeavor overlap and are clearly ones that the skilled artisan would have been expected to look. This is so because the skilled artisan working in the wire treatment field would clearly have been expected to look to wire processing whether the wire is ultimately used in differing fields. The fact that the use of the end products made by Gerspacher and Sawada's processes differs does not detract from this position. Both teachings are directed to wire working that deals with processing of wire so that the wire can be coated, treated and drawn into

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coated wire. The skilled artisan having a level of skill within this art would have been expected to look to the arts involving the processing of wire regardless of how the processed wire may or may not be used once manufactured in the manufacturing plant. Accordingly, the fields of endeavor for Gerspacher and Sawada are not divergent.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Sullivan whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 10am - 8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached at (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Debra M Sullivan/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725